# Layoffs in Canada

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Layoffs are known to have lasting effects on individuals' personal and family income (Morissette et al. 2007) and may thus affect the stability of their income as well as their level of consumption and saving (Gruber 1997, and Browning and Crossley 2001). They might also affect the retirement income of individuals who either lose a retirement plan or acquire a less generous plan in the subsequent job. Layoffs are also a source of stress for the households affected and can have consequences for their mental health and the stability of conjugal unions (Hamilton et al. 1997, and Charles and Stephens 2004). For the economy as a whole, layoffs represent an economic loss since skills remain unused during the jobless period and they result in a loss of employer-specific skills, which can temporarily reduce the employee's productivity during the job transition.

Following the recession of the early 1990s, several studies examined layoffs in a context of economic growth characterized by a slow recovery in employment and weak global demand (Doiron 1995, Fallick 1996, Picot and Lin 1997, Galarneau and Stratychuk 2001, and Picot and Heisz 2000). The period studied in this article (2002 to 2007) is quite different, and its context is instead one of general economic growth and a decline of the manufacturing sector. Few studies have examined layoffs in this context, and those that have done so have mainly focused on wage losses (Morissette et al. 2007) or specific sectors of the economy (Frenette 2007).

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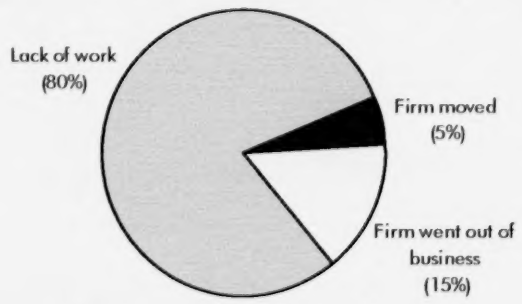
This study is based on data from the Survey of Labour and Income Dynamics (SLID), a longitudinal survey recognized for its broad inclusion of social and labour market characteristics (see *Data source and definitions*).

This article begins by following the evolution of layoff rates since 1993, then provides a comparative analysis of the risk of layoff between the 1990s and 2000s by seeking to identify the factors associated with a high risk of layoff. It also examines the duration of jobless spells as well as various characteristics of the lost jobs and subsequent jobs, such as the wage, union coverage and participation in a retirement plan.

## Trends in the layoff rate

Layoffs are countercyclical since they tend to increase during economic slowdowns and decrease in periods of growth.[1] After the recession of the early 1990s, the

**Chart A Most layoffs are attributable to lack of work**




Source: Statistics Canada, Survey of Labour and Income Dynamics, 2007.

## Data source and definitions

This study is based on longitudinal and cross-sectional data from the **Survey of Labour and Income Dynamics** (SLID). SLID covers roughly 97% of the Canadian population, excluding residents in the territories, in institutions, on First Nations reserves and in military barracks. Each panel of respondents—approximately 15,000 households and 30,000 adults—is surveyed for six consecutive years. A new panel is introduced every three years, so two panels always overlap. Cross-sectional analysis is concentrated on full-time employees age 16 to 69 at the time of their layoff, during the years 1993 to 2007 without other restrictions. In Tables 1 and 2, as well as in the logistic regression models, the characteristics of laid-off persons may be taken into account more than once. For the longitudinal component, the study used Panel 1, covering the years 1993 to 1998, and Panel 4, covering the years 2002 to 2007. These panels were chosen because they allowed analysis of SLID results over the longest possible observation period, extending from the first to the last complete panel of the survey. Although in the longitudinal analysis laid-off persons may be represented more than once if they are subject to more than one layoff, the vast majority experience only one layoff during the study period. Some additional restrictions were imposed on the longitudinal sample: only workers with one full-time job at a time and at least one year of seniority in their jobs were included to focus the analysis on persons with a strong attachment to the labour force and avoid including persons likely to experience numerous transitions in a short period of time. This type of restriction is consistent with what is done in other studies (Morissette et al. 2007, Galarneau and Stratychuk 2001).

**Layoffs**: This study examines layoffs resulting from the overall economic situation or the specific situation of an industry. This includes layoffs that occur because the firm moves, the firm goes out of business, or there is a lack of work.

Dismissals are excluded because they are often related to the employee's performance rather than the economic situation. Since SLID is a household survey, the concept of layoff depends in part on the respondent's perception and the definition provided by the interviewer. The literature on layoffs often distinguishes between those that are temporary and permanent in order to separate temporary dismissals where the workers expect to be called back from definitive layoffs. This distinction is more difficult in SLID since the identification numbers of jobs and employers change with the start of each job. Thus, a job that ends temporarily will have a new identification number when it resumes.

The number of layoffs in this article is lower than that obtained from the Longitudinal Worker File (LWF) (Morissette 2004). This gap is mostly attributable to the more restrictive definition of layoff used in this article. Only full-time workers were considered—ending temporary jobs and ending seasonal jobs were excluded. The LWF does not make such distinctions.

Most of the layoffs identified by SLID were attributed to a lack of work. The proportion ranged between 76% and 85% from 1993 to 2007. Firm closures accounted for between 12% and 22% of layoffs, meaning that very few layoffs occurred because the firm moved (Chart A).

**Layoff rate**: The layoff rate is calculated in person–jobs and it represents the number of annual layoffs for full-time jobs, divided by the population at risk of layoff, measured by the number of full-time person–jobs during the year. Therefore, a person with more than one layoff will be counted more than once.

The layoff rate in this article is lower than that in the Longitudinal Worker File, due to the article's more restrictive definition of layoff.

**Occupational skill level**: The National Occupational Classification (NOC) includes more than 500 occupational groups to which a skill level can be assigned under Human Resources and Skills Development Canada's Essential Skills Research Project. The skill level reflects both the education level usually required on the labour market to engage in these occupations and some criteria on experience, specific training and responsibilities related to health and safety. In this study, occupations are divided into four groups according to their skill level:

- occupations usually requiring a university education, such as professional positions
- occupations requiring a college-level education or apprenticeship
- occupations requiring no more than a high school diploma
- management occupations, to which no skill level was assigned.

**Duration of jobless spell**: Corresponds to the length of time between the end of the lost job and the start of the following job, and therefore includes the time spent unemployed (actively looking for work) and outside the labour force.

**Employment income**: Includes all wages, salaries and commissions as well as income from farm or non-farm self-employment.

**Market income**: Includes employment income and earnings, investment income, retirement pensions and other income, and excludes government transfers.

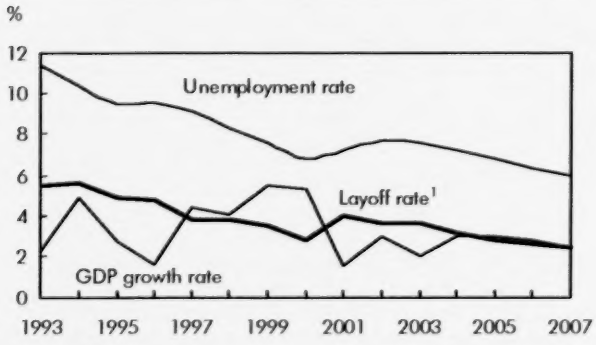
**Low-income rate**: In this article, the low-income rate is calculated based on the Low Income Measure (LIM), using total after-tax income and market income. According to LIM, a person is in low income if his or her family income is less than one-half the median family income (total or market) of all families. Incomes are adjusted according to the number of persons per family to account for the economies of scale inherent in family size and composition (for more details on LIM, see Statistics Canada 2009).

layoff rate for full-time workers declined almost steadily until 2000, going from 5.5% to 2.8% (Chart B). Following the modest slowdown at the start of the millennium, the rate went back up to 4.0% in 2001. During the growth years that followed, the rate again declined, reaching a low of 2.4% in 2007.[2] This low rate was observed despite the difficulties in the manufacturing sector during the 2000s, which especially affected Central Canada and the textile, auto, wood and paper industries. The unemployment rate followed a similar trend, whereas for the 15 years of the study period overall, the GDP registered positive growth rates.

A regression analysis confirms that the adjusted probability of being laid off was at least twice as low in 2007 as in 1993, for both men and women (see *Modeling*). The lower probability of being laid off between 2001 and 2007 than in the period from 1993 to 2000 rather appears related to the more favourable economic situation from 2001 to 2007 and not to a compositional effect.

In general, men have higher layoff rates than women (Chart C). This gap persisted throughout the study period. Both in 1993 and 2007, men were one and one-half times more likely to be laid off even after controlling for the different characteristics of men and women.

**Chart B Layoffs are countercyclical**

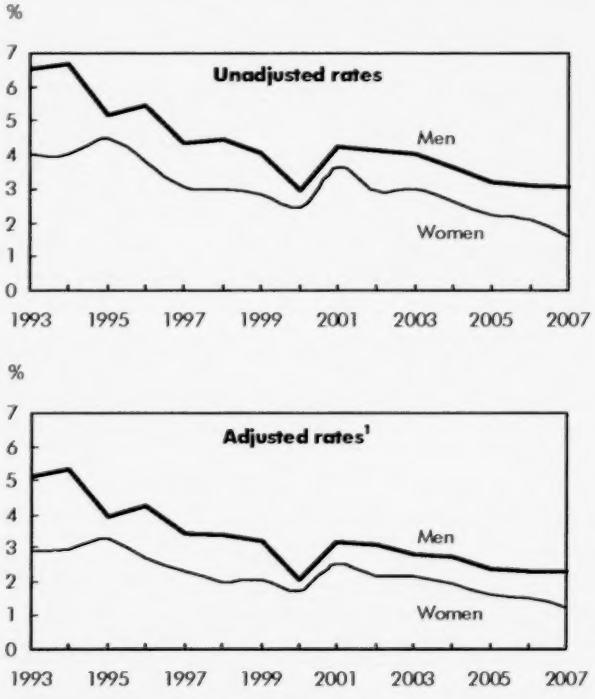



1. Layoff rate for full-time jobs.
Sources: Statistics Canada, Labour Force Survey, Survey of Labour and Income Dynamics, and System of National Accounts, Gross Domestic Product (GDP).

## Convergence of layoff rates in 2007

While major differences could be observed according to various characteristics in 1993, by 2007 the differences had diminished substantially (Tables 1 and 2), with rates mostly ranging between 2% and 3%. This probably reflects the general improvement in labour market conditions.

**Chart C Even after controlling for their characteristics, men have higher layoff rate than women**




1. Rates adjusted according to age, education level, family type, number of children, region of residence, visible minority status, Aboriginal status, recent immigrant status and characteristics of the lost job (length of employment, union coverage, skill level, firm size, hourly wage, industry).
Source: Statistics Canada, Survey of Labour and Income Dynamics.

## Modeling

**Adjusted rates**
The adjusted rates in Charts C, D and E were calculated using logistic regressions on the probability of being laid off (1 if the person was laid off and 0 otherwise). For more flexibility, separate models for men and women covering the entire period were estimated. The independent variables were as follows: age, education level, family type, presence of children, region of residence, visible minority status, Aboriginal status, recent immigrant status and selected characteristics of the lost job (job tenure, firm size, union coverage, skill level, wage and industry). As in similar studies, while the layoffs included here are caused by economic factors, demographic variables can also be associated with the probability of layoff since employers that have to make workforce reductions may choose to lay off workers who have characteristics that make them relatively less productive because they have less experience, less language proficiency, etc. Adjusted probabilities were estimated for the entire study period at the average values for the independent variables, except for the variable of interest, which takes on the value 0 or 1, depending on the scenario chosen.

**Logistic regression, duration of jobless spell**
The duration of a jobless spell may be related to demographic characteristics of the laid-off persons (such as age, sex, education level, visible minority status, having/not having a spouse and/or children), characteristics of the lost job (such as wage, length of service and industry), economic conditions at the regional level (provinces) or global level (captured by the layoff year) and receiving/not receiving employment insurance benefits (Galarneau and Stratychuk 2001). A logistic regression was estimated on the probability of finding a new job in three months or less and in six months or less. Only persons who found a job within one year were retained in the sample, and only layoffs experienced between 1993 and 1997 and 2002 and 2006 were retained, since persons laid off during the last year of the panel are not observed one year later.

**Logistic regression, wage losses**
To determine which groups were more likely to suffer a sizeable wage loss after a layoff, a logistic regression model was estimated. The dependent variable took on the value of 1 if the displaced worker suffered a wage loss of more than 30%, and 0 otherwise. The independent variables included age, sex, education level, duration of the lost job, duration of jobless spell, province and wage of the lost job.

**Comparison of job characteristics**
In this section, the extent to which displaced workers manage to find jobs with characteristics equivalent to those of their previous job is examined. SLID was used longitudinally to compare the characteristics of the job at the time of the layoff with those of the new job at the end of the year in which that job was found (or the end of the job if the new job ended before the end of the year). It would have been preferable to examine the characteristics of the new job when it was started, but this information is not available in SLID.

For the analysis of wage differences, the hourly wage in 2007 constant dollars is used. When a person is not paid by the hour, an hourly rate is calculated using the total wage and the number of hours.

For the analysis of low-income status transitions, the low-income status before the layoff is that for the complete year preceding the year of the layoff, and the low-income status after the new job is that for the complete year following the year of the layoff. For example, if a person loses his or her job in 2003 and finds a new job the same year, the 'before' low-income status will be that for 2002, and the 'after' low-income status will be that for 2004.

For all of the models and tables, bootstrap weights were used to control for the effect of the complex design of the survey. In the cross-sectional part, data were weighted using the person's cross-sectional labour weight, while in the longitudinal part, the longitudinal weight was used.

Despite some convergence in rates, the estimation of a separate logistic regression model for men and women covering the entire study period (1993 to 2007) showed that factors such as age, education level, region of residence, firm size, union coverage, job tenure, hourly wage and industry were significantly associated with the probability of being laid off.

For men, age did not seem to be associated with the probability of layoff except during the period from 1993 to 2000.[3] During those years, men age 45 to 54 seemed more likely to be laid off than those age 55 and over. For women, age remained a significant factor throughout the entire study period: being age 35 to 54 increased the probability of layoff compared

**Table 1 Change in layoff rate for full-time workers over time, by demographic characteristics**

| | 1993 | 2000 | 2001 | 2007 |
|---|---|---|---|---|
| | | % | | |
| **Both sexes** | **5.5** | **2.8** | **4.0** | **2.4**[1] |
| Men | 6.5 | 3.0 | 4.2 | 3.1 |
| Women | 4.0 | 2.5 | 3.6 | 1.6 |
| **Age** | | | | |
| 16 to 24 | 8.0 | 3.7 | 5.4 | 2.6 |
| 25 to 34 | 5.5 | 2.2 | 4.2 | 2.5 |
| 35 to 44 | 5.0 | 2.5 | 3.7 | 2.2 |
| 45 to 54 | 4.9 | 3.0 | 3.3 | 2.6 |
| 55 and over | 3.8 | 3.2 | 3.0 | 2.2 |
| **Education level** | | | | |
| No high school diploma | 8.6 | 4.1 | 5.9 | 3.9 |
| High school diploma | 6.1 | 2.8 | 4.1 | 2.3 |
| Non-university postsecondary education | 5.3 | 2.6 | 3.7 | 2.6 |
| Bachelor's or higher | 1.5 | 1.3 | 2.5 | 1.2 |
| **Family type** | | | | |
| Single | 4.5 | 2.7 | 3.7 | 2.6 |
| Married | 5.6 | 2.6 | 3.9 | 2.3 |
| Lone parent | F | 3.3 | 4.9 | 2.7 |
| Other | 5.4 | 3.8 | 4.4 | 2.5 |
| **Province** | | | | |
| Atlantic | 7.1 | 3.9 | 4.4 | 3.1 |
| Quebec | 9.5 | 3.2 | 4.3 | 2.9 |
| Ontario | 3.8 | 2.6 | 4.4 | 2.5 |
| Manitoba | 3.1 | 1.9 | 2.9 | 1.9 |
| Saskatchewan | 3.3 | 2.6 | 3.3 | 1.2 |
| Alberta | 4.9 | 1.5 | 2.7 | 1.6 |
| British Columbia | 3.5 | 3.0 | 3.3 | 2.1 |
| **Visible minority** | | | | |
| Yes | 4.2 | 3.4 | 5.1 | 2.2 |
| No | 5.6 | 2.6 | 3.7 | 2.5 |
| **Aboriginal status** | | | | |
| Yes | 10.1 | 2.8 | 4.7 | 3.0 |
| No | 5.3 | 2.6 | 3.8 | 2.4 |

1. The layoff rate in this article is lower than that in the Longitudinal Worker File, due to the article's more restrictive definition of layoff. For details, see *Data source and definitions*.

Source: Statistics Canada, Survey of Labour and Income Dynamics.

to women 55 and over. Also, the advantage of having more education remained for men and women—having at least a high school diploma or more appeared to offer protection against layoffs during the two observation periods.

**Table 2 Change in layoff rate for full-time workers over time, by characteristics of lost job**

| | 1993 | 2000 | 2001 | 2007 |
|---|---|---|---|---|
| | | % | | |
| **Total** | **5.5** | **2.8** | **4.0** | **2.4**[1] |
| **Industry** | | | | |
| Primary | 5.2 | 3.6 | 3.8 | 3.6 |
| Utilities, education, health and social assistance, and public administration | 1.8 | 0.6 | 0.7 | 0.4 |
| Construction | 14.5 | 7.5 | 8.1 | 5.6 |
| Manufacturing | 7.5 | 4.4 | 7.2 | 4.0 |
| Trade | 6.8 | 2.2 | 4.4 | 2.3 |
| Transportation and warehousing | 5.2 | 2.9 | 4.8 | 2.4 |
| Professional, scientific and technical services and business, building and other support services | 4.9 | 2.8 | 5.3 | 3.3 |
| Information, culture and recreation, and accommodation and food services | 5.5 | 2.9 | 3.0 | 2.0 |
| Other services | 5.9 | 2.5 | 3.1 | 3.0 |
| **Firm size** | | | | |
| Less than 20 employees | 8.4 | 3.7 | 4.8 | 3.3 |
| 20 to 99 | 4.7 | 2.5 | 3.8 | 2.2 |
| 100 to 499 | 3.5 | 2.4 | 3.3 | 2.4 |
| 500 to 999 | 3.3 | 1.7 | 3.0 | 1.2 |
| 1,000 and over | 1.5 | 1.1 | 3.5 | 0.7 |
| **Job tenure** | | | | |
| Less than 4 months | 16.5 | 9.4 | 9.0 | 4.3 |
| 4 to 12 months | 13.0 | 5.7 | 7.1 | 3.4 |
| More than 12 to 24 months | 7.3 | 2.2 | 5.6 | 2.7 |
| More than 24 to 60 months | 5.1 | 2.1 | 2.3 | 1.4 |
| 5 to 13 years | 2.7 | 1.2 | 1.9 | 1.5 |
| More than 13 years | 0.9 | 0.8 | 0.9 | 1.3 |
| **Hourly wage of lost job** | | | | |
| Less than $10.00 | 8.9 | 4.7 | 5.8 | 3.3 |
| $10.00 to $13.49 | 6.6 | 3.7 | 5.6 | 3.1 |
| $13.50 to $14.99 | 5.5 | 3.1 | 5.1 | 3.3 |
| $15.00 to $19.99 | 5.9 | 2.7 | 4.3 | 2.5 |
| $20.00 to $29.99 | 3.7 | 2.1 | 2.6 | 2.3 |
| $30.00 or more | 2.9 | 1.2 | 1.9 | 1.0 |
| **Occupation** | | | | |
| Managers | 2.5 | 1.4 | 2.3 | 1.6 |
| Professionals | 2.1 | 0.9 | 1.8 | 1.1 |
| Technicians and apprentices | 6.3 | 3.0 | 4.1 | 2.4 |
| Non-specialized occupations | 6.6 | 3.4 | 4.8 | 3.0 |
| **Coverage by collective agreement** | | | | |
| Yes | 3.9 | 2.1 | 2.6 | 2.1 |
| No | 6.3 | 3.0 | 4.7 | 2.6 |

1. The layoff rate in this article is lower than that in the Longitudinal Worker File, due to the article's more restrictive definition of layoff. For details, see *Data source and definitions*.

Source: Statistics Canada, Survey of Labour and Income Dynamics.

Compared with workers in Ontario (excluding the Toronto and Ottawa areas), those in certain regions were more or less likely to be laid off (Table 3). For example, men and women in the Atlantic provinces and Quebec and men in the large metropolitan Montréal area were more likely to be laid off than those in Ontario. On the other hand, men and women in Saskatchewan and Alberta (except for the Calgary area) and men in Manitoba were slightly less likely to be laid off than those in Ontario. These results reflect the evolution of provincial unemployment rates during the study period.

The probability of being laid off also diminished with the size of the firm. This was consistent with the findings of other studies (Picot and Lin 1997, Picot et al. 1997, and Morissette 2004) and is partly attributable to the lesser stability of small and medium-size firms, which are much more likely to go out of business and therefore result in layoffs. Also, due to their greater stability, large firms often have an older, more experienced workforce, and they are better able to attract more educated workers by offering higher wages and greater union coverage (Picot et al. 1997). These factors tend to increase the gap in layoff rates between small and medium-size companies and large companies.

The probability of being laid off also decreased with job tenure. Less experienced employees have fewer opportunities to acquire skills specific to the employer, which could make them less costly to replace and increase their risk of layoff. Finally, the layoff rate diminishes as the hourly wage increases as high wages are often associated with greater productivity and therefore lower risks of layoff.

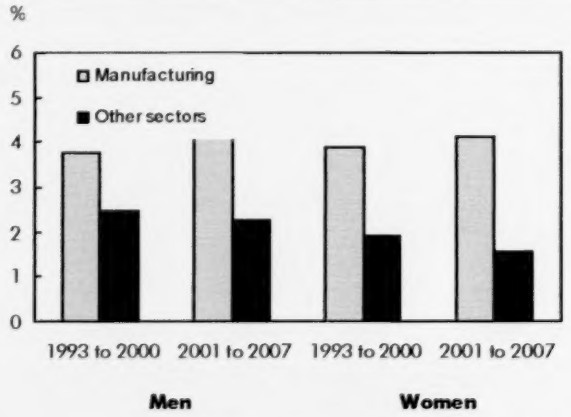
Even after controlling for the specific characteristics of workers in the manufacturing sector, these workers were more likely to be laid off than workers in other sectors. This greater probability of layoff was relatively higher during the period from 2001 to 2007 than from 1993 to 2000. From 2001 to 2007, compared to workers in other sectors of the economy, men in the manufacturing sector were 1.9 times more likely to be laid off, and women, 2.7 times more likely. From 1993 to 2000, the corresponding ratios were 1.5 and 2.0, respectively (Chart D). This greater probability of layoff in the manufacturing sector in the 2000s, despite a long period of economic growth, reflects the problems in this sector (Bernard 2009).

**Table 3 Adjusted probability[1] of layoff for men and women from 1993 to 2007**

| | Men | Women |
|---|---|---|
| | % | |
| Atlantic | 3.1* | 1.9* |
| Quebec (excluding Montréal) | 3.7* | 2.6* |
| Montréal | 3.0* | 2.1 |
| Ontario (ref.) (excluding Toronto and Ottawa) | 2.3 | 1.7 |
| Toronto | 2.1 | 1.7 |
| Ottawa | 2.3 | 1.6 |
| Manitoba | 1.7* | 1.4 |
| Saskatchewan | 1.7* | 1.2* |
| Alberta (excluding Calgary) | 1.9* | 1.2* |
| Calgary | 2.4 | 1.3 |
| British Columbia (excluding Vancouver) | 2.5 | 1.8 |
| Vancouver | 2.0 | 1.8 |

* Significant difference in relation to reference group (ref.) at 0.05 level
1. Probability adjusted according to age, education level, family type, number of children, region of residence, visible minority status, Aboriginal status, recent immigrant status and characteristics of lost job (job tenure, union coverage, skill level, firm size, hourly wage, industry).
Source: Statistics Canada, Survey of Labour and Income Dynamics.

**Chart D Workers in manufacturing sector had higher probability[1] of being laid off throughout entire study period**



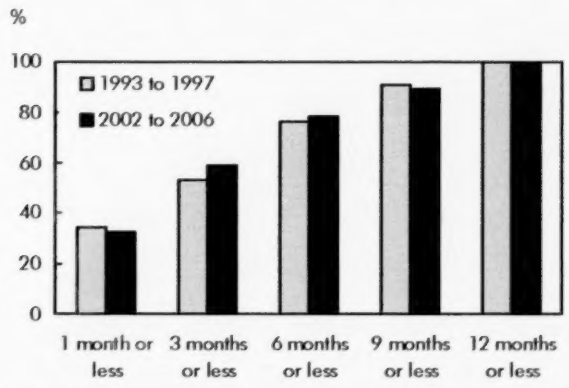

1. Probability adjusted according to age, education level, family type, number of children, region of residence, visible minority status, Aboriginal status, recent immigrant status and characteristics of lost job (job tenure, union coverage, skill level, firm size, hourly wage, industry).
Note: All differences between the adjusted layoff rate for workers in the manufacturing sector and those in other sectors are significant at the 0.05 threshold.
Source: Statistics Canada, Survey of Labour and Income Dynamics.

## Jobless duration

The sections below are based on the SLID longitudinal sample, in which laid-off persons are tracked over time to determine the length of their jobless spell and the associated factors, their labour force activity one year later and the characteristics of the subsequent job. Since it is not possible to see what happened to persons laid off during the last year of observation for each panel, the results focus on layoffs that occurred during the first five years of each panel, namely the period from 1993 to 1997 for the first panel and from 2002 to 2006 for the second panel.

Among the persons who were laid off between 2002 and 2006 and who found a job within one year, nearly 8 in 10 found one in six months or less and nearly 6 in 10 found one in three months or less. These proportions were similar to those observed coming out of the 1991/1992 recession, that is, for persons laid off between 1993 and 1997 (Chart E). Approximately 30% of persons laid off during these two periods found a job within one month, which includes persons who found one even before the end of the job from which they were laid off.

**Chart E Jobless duration similar in both periods**




Source: Statistics Canada, Survey of Labour and Income Dynamics.

To determine how much the jobless spell varies according to selected characteristics, two logistic regression models were estimated. The first estimates the probability that a jobless spell will last three months or less, and the second that it will last six months or less (see *Modeling*). The models were estimated for the periods from 2002 to 2006 and from 1993 to 1997 (Table 4).[4]

**Table 4 Adjusted probability of jobless spell of three months or less and six months or less**

| | 1993 to 1997 | 2002 to 2006 |
|---|---|---|
| | % | |
| **Adjusted probability[1] of a spell of three months or less** | | |
| 16 to 34 (ref.) | 53.8 | 61.5 |
| 35 to 44 | 60.0 | 64.1 |
| 45 to 54 | 48.7 | 55.9 |
| 55 and over | 47.8 | 52.1 |
| Men (ref.) | 57.7 | 63.1 |
| Women | 45.8 | 54.1 |
| Visible minority | | |
| No (ref.) | 56.1 | 60.8 |
| Yes | 38.5 | 54.7 |
| Employment insurance benefits | | |
| Non (ref.) | 70.1 | 75.4 |
| Yes | 42.7* | 44.0* |
| **Adjusted probability[1] of a spell of six months or less** | | |
| 16 to 34 (ref.) | 83.2 | 80.5 |
| 35 to 44 | 83.5 | 84.1 |
| 45 to 54 | 79.5 | 81.3 |
| 55 and over | 69.5 | 58.6 |
| Men (ref.) | 86.4 | 82.2 |
| Women | 67.9* | 77.3 |
| Visible minority | | |
| Non (ref.) | 84.0 | 81.1 |
| Yes | 57.6 | 76.8 |
| Employment insurance benefits | | |
| No (ref.) | 91.2 | 86.2 |
| Yes | 72.3* | 74.1 |

* Significant difference in relation to reference group (ref.) at 0.05 level
1. Probability adjusted according to age, sex, job tenure, education level, province, wage, previous job, visible minority status, presence of spouse, presence of children, presence or absence of employment insurance (EI) benefits, industry and year.
Source: Statistics Canada, Survey of Labour and Income Dynamics.

For the period from 2002 to 2006, sex and visible minority status did not appear to be any more strongly associated with the duration of a jobless spell than they were from 1993 to 1997.[5] This probably reflects the improvement in labour market conditions between the two periods as well as pressures on the demand for workers resulting from the strong growth at the start of the millennium.

Receiving employment insurance (EI) benefits appears to have an effect on the length of the jobless spell, especially in the short term. For example, from 2002 to 2006, 44% of EI claimants were unemployed for three months or less, compared to 75% of persons who were not receiving benefits. This gap is similar to the one observed from 1993 to 1997. This effect is consistent with findings in previous studies (Jones 2009, Bloom et al. 1999, and Quets et al. 1999). On the one hand, EI benefits generally increase the length of the job search period, since they increase the reservation wage, but they also have an effect on well-being, since they reduce the shock to family income and the consumption level. They also increase the efficiency of the labour market by allowing the affected persons to take the time to find a job that is a good fit, which increases the chances of obtaining a better 'job–worker' match.

## Persons laid off between 2002 and 2006 were more likely to be employed one year later

A comparison of the labour force activity of laid-off workers one year later shows that persons laid off between 2002 and 2006[6] were more likely to be employed than those laid off between 1993 and 1997—their average employment rate was 81% compared to 73% (Table 5). This strong propensity to be employed one year after a layoff was widespread. Notable improvements were also observed for women and for less-educated persons. In other words, persons in these groups were much more likely to be employed one year later if their layoffs occurred between 2002 and 2006 rather than between 1993 and 1997.

These patterns reflect the more favourable economic conditions in the second observation period as well as certain changes like the continual increase in women's labour market activity[7] and the possibility of some labour shortages.

**Table 5 Labour force activity status one year after layoff**

| | Total | Employed | Unemployed | Not in labour force |
|---|---|---|---|---|
| | | | % | |
| **Layoffs between 2002 and 2006**[1] | | | | |
| Both sexes | 790,500 | 80.7* | 13.1* | 6.2 |
| Men | 516,200 | 81.8* | 13.5 | 4.7 |
| Women | 274,300 | 78.5* | 12.5 | 9.0 |
| 16 to 24 | 68,800 | 94.2 | F | F |
| 25 to 34 | 176,600 | 80.7 | F | F |
| 35 to 44 | 264,200 | 77.3 | 15.5 | F |
| 45 to 54 | 217,200 | 80.3 | 14.0 | F |
| 55 and over | 63,800 | 80.9 | F | F |
| Education level | | | | |
| High school diploma or less | 210,100 | 83.8* | F | F |
| Postsecondary education | 331,000 | 77.7 | 14.7 | 7.6 |
| University degree | 119,800 | 81.1 | F | F |
| **Layoffs between 1993 and 1997**[1] | | | | |
| Both sexes | 706,000 | 72.8 | 18.4 | 8.8 |
| Men | 471,500 | 75.8 | 17.4 | 6.7 |
| Women | 234,600 | 66.7 | 20.4 | F |
| 16 to 24 | 70,400 | 81.8 | F | F |
| 25 to 34 | 231,500 | 69.7 | 20.8 | F |
| 35 to 44 | 201,700 | 75.4 | 17.6 | F |
| 45 to 54 | 170,300 | 73.0 | 19.4 | F |
| 55 and over | 32,200 | 58.6 | F | F |
| Education level | | | | |
| High school diploma or less | 220,600 | 72.0 | 21.5 | 6.6 |
| Postsecondary education | 407,800 | 73.6 | 16.4 | F |
| University degree | 74,000 | 72.0 | F | F |

* Significant difference in relation to same group between the two panels at the 0.05 level
1. Labour force activity status one year later was not observed for persons laid off during the last year of each panel.
Source: Statistics Canada, Survey of Labour and Income Dynamics.

## New jobs often less well paid

Of the people who were permanently laid off between 2002 and 2006, approximately 85% found a new job within one year, a proportion slightly higher than for the period from 1993 to 1997 (about 80%). The section that follows focuses solely on these people. It compares the characteristics of the new job with those of the lost job to determine whether working conditions were maintained.

When there was a wage difference between the new and former jobs, the difference was usually to the worker's disadvantage (see *Modeling, Comparison of job characteristics*). Persons who were laid off between 2002 and 2006 and found a new job within one year were about 60% more likely to suffer a loss of earnings (42%) than to experience a gain (26%), while approximately one-third (32%) maintained the same earnings (within a range of plus or minus 5%) (Table 6). The same observations could be made for the period from 1993 to 1997. Although hourly wages tended to vary, the usual hours of work in the former job and the new job were quite similar. This indicates that, on average, lower hourly wages meant reduced employment income.

**Table 6 Individuals experiencing wage gains, losses or no change between former job and new job[1]**

| | 1993 to 1997 | 2002 to 2006 |
|---|---|---|
| | % | |
| Wage loss | 42.6 | 41.7 |
| Similar wage | 33.7 | 32.0 |
| Wage gain | 23.7 | 26.3 |
| | hours | |
| Average hours, old job | 40.8 | 40.9 |
| Average hours, new job | 38.0 | 39.2 |

1. There is a loss if the hourly wage of the new job is at least 5% lower than the wage of the lost job and there is a gain if the wage gap is more than 5%; otherwise the wage is classified as being 'similar.'

Source: Statistics Canada, Survey of Labour and Income Dynamics.

**Table 7 Scale of wage losses and gains, former and new job[1]**

| | Wage losses | | Wage gains | |
|---|---|---|---|---|
| | 1993 to 1997 | 2002 to 2006 | 1993 to 1997 | 2002 to 2006 |
| | | | % | |
| 5% to 10% | 15.2 | 19.7 | 20.1 | 18.6 |
| More than 10% to 20% | 25.0 | 27.7 | 15.7 | 24.5 |
| More than 20% to 30% | 17.8 | 19.6 | 16.9 | 26.2 |
| More than 30% | 42.0 | 33.0 | 47.3 | 30.7 |
| Median difference | -25.0 | -22.4 | 28.4 | 21.5 |

1. There is a loss if the hourly wage of the new job is at least 5% lower than the wage of the lost job and there is a gain if the wage gap is more than 5%; otherwise the wage is classified as being 'similar.'

Note: The results from 1993 to 1997 were not significantly different from those from 2002 to 2006 at the 5% level. However, wage losses were significantly higher than gains at the 5% level.

Source: Statistics Canada, Survey of Labour and Income Dynamics.

Losses and gains were generally substantial. From 2002 to 2006, more than one-half of wage losses (53%) and wage gains (57%) exceeded 20% (Table 7). A logistic regression model shows that during the period from 2002 to 2006, as from 1993 to 1997, those whose initial wages were relatively high (more than $30 per hour) were more likely to experience sizeable losses[8] (see *Modeling*).

This greater frequency of wage losses shows that layoffs can, in the short term, have major negative consequences and affect workers' standard of living. The fact that wage losses have been more frequent than gains in the two observation periods can be explained by several factors. For example, since the wage depends, among other things, on the worker's productivity, which in turn depends on job tenure (since skills specific to the firm are acquired over time), an employee with less seniority is less likely to be well-paid than an employee with greater job tenure.

Finally, when a new job requires a lower skill level than the job that was lost, a change in occupation could result in lower wages. And indeed, the SLID data confirm that a sizeable proportion of laid-off workers—

approximately 14% for both observation periods—find a job with a skill level lower than that of the lost job. This could, in part, explain the higher frequency of wage losses observed from 1993 to 1997 and from 2002 to 2006.

## Wage losses not enough to raise the low-income rate

The sizeable wage losses noted above could be especially worrisome if they were large enough to bring about an increase in the low-income rate. However, the data show that the vast majority of laid-off workers remain above the low income cut-off.

Between 2002 and 2006, nearly 9 in 10 workers (88%) *were not* in low income[9] (total after-tax family income) the year preceding the layoff and remained above it the year after they obtained their new jobs (Table 8). This is similar to the proportion for the period from 1993 to 1997. Only a very small proportion of displaced workers were above the low-income cut-off before the layoff and fell below it with their new jobs.[10]

The fact that few families are in a low-income situation after the layoff of one of their family members could be attributable to the large number of families in which both spouses are employed full time (Lu and Morissette 2010). Such families have some protection in the event of the sudden loss of one of their employment incomes. Some spouses might also increase their hours to offset the decrease in family income. However, this appears to be more common among childless families (Morissette and Ostrovsky 2008).

The social safety net—which includes the employment insurance program, the various tax credits provided to families in a precarious situation, and the progressive structure of taxation rates—also helps prevent families from finding themselves in low income after a layoff. This is reflected in the fact that if market income is used (that is, family income before government transfers and income tax) instead of total after-tax income, more families would fall below the low-income line. For the period from 2002 to 2006, 77% remained above the market low-income cut-off before and after the layoff compared to 88% of families if total income is used. From 1993 to 1997, the corresponding proportions were 85% and 92%.

**Table 8 Family low-income status of persons who experienced a layoff, year preceding layoff and year following start of new job**

| | | |
|---|---|---|
| **Low Income Measure, total after-tax income** | | |
| | Following year | |
| 2002 to 2006 | Yes | No |
| Previous year | % | |
| Yes | F | F |
| No | F | 87.6 |
| | Following year | |
| 1993 to 1997 | Yes | No |
| Previous year | % | |
| Yes | F | F |
| No | 1.6 | 92.0 |
| **Low Income Measure, total market income (before tax and transfers)** | | |
| | Following year | |
| 2002 to 2006 | Yes | No |
| Previous year | % | |
| Yes | 4.0 | F |
| No | 14.4 | 76.5 |
| | Following year | |
| 1993 to 1997 | Yes | No |
| Previous year | % | |
| Yes | 4.9 | F |
| No | 5.1 | 85.0 |

Source: Statistics Canada, Survey of Labour and Income Dynamics.

## Loss of pension plan coverage is significant

Employer-sponsored private pension plans are an important component of Canadians' retirement income. Nevertheless, more than 6 in 10 jobs in Canada provide no pension plan (Gougeon 2009).

For workers laid off between 2002 and 2006, the proportions were similar, with 57% of them not being covered by such a plan, in either the lost job or the new job (Table 9). However, a sizeable proportion of them (20%) lost their coverage, as was also the case from 1993 to 1997 (16%).

## Laid-off workers just as likely to be unionized

On average, unionized jobs are better paid (Fang and Verma 2002) and more likely to provide benefits such as insurance and pension plans (Akyeampong 2002). It is therefore important to examine the extent to which laid-off workers are likely to have a unionized job subsequently. As it turns out, laid-off workers were just as

**Table 9 Jobs with or without pension plan, previous job and new job**

| 2002 to 2006 | New job | |
|---|---|---|
| Previous job | Yes | No |
| | % | |
| Yes | 13.3 | 19.8 |
| No | 10.0 | 56.8 |
| **1993 to 1997** | **New job** | |
| Previous job | Yes | No |
| | % | |
| Yes | 12.0 | 16.4 |
| No | 6.4 | 65.2 |

Source: Statistics Canada, Survey of Labour and Income Dynamics.

**Table 10 Unionized jobs, previous job and new job**

| 2002 to 2006 | New job | |
|---|---|---|
| Previous job | Yes | No |
| | % | |
| Yes | 11.2 | 11.1 |
| No | 9.3 | 68.4 |
| **1993 to 1997** | **New job** | |
| Previous job | Yes | No |
| | % | |
| Yes | 15.3 | 11.2 |
| No | 5.1 | 68.4 |

Source: Statistics Canada, Survey of Labour and Income Dynamics.

likely to be unionized before and after the layoff (Table 10). Between 2002 and 2006, 7 in 10 (68%) displaced workers were not unionized at the time of the layoff and were still not unionized after finding a new job. Similar proportions of workers gained access to a unionized job, lost such access or underwent no change. These results suggest that wage decreases experienced by laid-off workers cannot be attributed to a shift toward non-unionized jobs.

## Conclusion

Layoffs are the source of many worker displacements each year and are known for their lasting effects on individuals' standard of living. From 1993 to 2007, the layoff rate followed a general downward trend in Canada, going from 5.5% to 2.4%. This drop was observed in most population groups and coincided with a long period of economic growth and a declining unemployment rate.

Despite some convergence in layoff rates between 1993 and 2007, factors such as sex, age, education level, region of residence, job tenure, firm size, union coverage, hourly wage rate and industry were significantly associated with the probability of being laid off. For example, throughout the entire study period, men were one and one-half times more likely than women to be laid off. Workers in the Atlantic provinces and Quebec as well as men in the metropolitan Montréal area were more likely than those in Ontario (except for Toronto and Ottawa) to be laid off. On the other hand, men and women in Saskatchewan and Alberta and men in Manitoba were less likely to be laid off.

Over the entire observation period, workers in the manufacturing sector were from 1.5 to 2.7 times more likely to experience a layoff than workers in other sectors of the economy.

A comparison of the labour force activity status of laid-off workers one year later found that persons laid off between 2002 and 2006 were more likely to be employed than those laid off between 1993 and 1997—their average employment rates were 81% and 73% respectively. This greater propensity to be employed one year after a layoff was widespread, but it was more pronounced for women and less-educated workers.

People who found a job after a layoff were about 60% more likely to experience a reduction than an increase in their hourly wage. Moreover, the wage reductions were substantial, mostly exceeding 20%. These wage reductions were not offset by increases in hours worked. These results indicate that the standard of living of a large number of displaced workers declined, especially in the short term. Despite these major wage losses, few displaced workers fell into a low-income situation.

Layoffs also affected workers' pensions. Approximately 20% of all laid-off workers lost their pension plan coverage by changing jobs.

New jobs were just as likely to be unionized as former jobs. This suggests that the wage losses experienced by laid-off workers cannot be attributed to a shift toward non-unionized jobs.

The results of this study show that even in a period of economic growth, the consequences of layoffs can be of concern, since they affect the short-term standard of living of the persons affected, and they could even affect the future retirement income of some of them.



## Notes

1. However, permanent layoffs are considered less sensitive to the business cycle than hirings, quits and temporary layoffs (Picot et al. 1997).
2. The layoff rate in this article is lower than that in the Longitudinal Worker File, due to the article's more restrictive definition of layoff. For details, see *Data source and definitions*.
3. All results referred to in this section come from logistic regressions. For details, see *Modeling*.
4. A duration model was estimated to distinguish the different labour force market statuses (employed, unemployed, not in labour force). However, the results were inconclusive.
5. Differences in duration by visible minority status were empirically sizeable for the period from 1993 to 1997, but they were not statistically significant. This is likely due to the small sample size, since visible minority status was shown to have an effect in a previous study that covered the same period (Galarneau and Stratychuk 2001), using another modeling method.
6. Table 5 and Chart E present two different concepts. Chart E shows the duration of the jobless period for those who found a job within one year, while Table 5 shows the labour force status of laid-off workers one year after they were laid off.
7. The employment rate for women rose from 51.5% to 58.3% from 1993 to 2007, while the employment rate for men rose more slowly over the same period, from 64.6% to 65.2%.
8. The results for the other variables, notably age and education level, are not statistically significant.
9. A comparison is made here for the proportion of persons who *are not* in low income between the lost job and the next job because the proportions who *are* in low income are too small and the differences are not significant. The same remark applies to pension plan and collective agreement coverage.
10. Similar proportions are observed when the year preceding the layoff and the actual year of the layoff are compared, which is usually a transition year in which workers might be more vulnerable (data not shown). This result is due in part to the existence of the employment insurance program, combined with the fact that most unemployment spells are short.

## References


Akyeampong, Ernest B. 2002. "Unionization and fringe benefits." *Perspectives on Labour and Income*. Vol. 3, no. 8. August. Statistics Canada Catalogue no. 75-001-X. http://www.statcan.gc.ca/pub/75-001-x/00802/6328-eng.html (accessed May 14, 2010).

Bernard, André. 2009. "Trends in manufacturing employment." *Perspectives on Labour and Income*. Vol. 10, no. 2. February. Statistics Canada Catalogue no. 75-001-X. http://www.statcan.gc.ca/pub/75-001-x/2009102/article/10788-eng.htm (accessed May 14, 2010).

Bloom, Howard, Saul Schwartz, Susanna Lui-Gurr and Suk-Won Lee. 1999. *Testing a Re-employment Incentive for Displaced Workers: The Earnings Supplement Project*. Ottawa. Social Research and Demonstration Corporation. http://www.hrsdc.gc.ca/eng/cs/sp/hrsd/prc/publications/research/1999-000152/page00.shtml (accessed May 19, 2010).

Browning, Martin and Thomas F. Crossley. 2001. "Unemployment insurance benefit levels and consumption changes." *Journal of Public Economics*. Vol. 80, no. 1. p. 1-23.

Charles, Kerwin Kofi and Melvin Stephens, Jr. 2004. "Job displacement, disability, and divorce." *Journal of Labor Economics*. Vol. 22, no. 2. p. 489-522.

Doiron, Denise J. 1995. "Lay-offs as signals: The Canadian evidence." *Canadian Journal of Economics*. Vol. 28, no. 4a. November. p. 899-913.

Fallick, Bruce C. 1996. "A review of the recent empirical literature on displaced workers." *Industrial and Labor Relations Review*. Vol. 50, no. 1. October. p.5-16.

Fang, Tony and Anil Verma. 2002. "Union wage premium." *Perspectives on Labour and Income*. Vol. 3, no. 9. September. Statistics Canada Catalogue no. 75-001-X. http://www.statcan.gc.ca/pub/75-001-x/00902/4095851-eng.html (accessed May 14, 2010).

Frenette, Marc. 2007. "Life after high tech." *Perspectives on Labour and Income*. Vol. 8, no. 7. July. Statistics Canada Catalogue no. 75-001-X. http://www.statcan.gc.ca/pub/75-001-x/10707/10287-eng.htm (accessed May 14, 2010).

Galarneau, Diane and Lori M. Stratychuk. 2001. "After the layoff." *Perspectives on Labour and Income.* Vol. 2, no. 10. October. Statistics Canada Catalogue no. 75-001-X. http://www.statcan.gc.ca/pub/75-001-x/01001/5960-eng.html (accessed May 14, 2010).

Gougeon, Philippe. 2009. "Shifting pensions." *Perspectives on Labour and Income.* Vol. 10, no. 5. May. Statistics Canada Catalogue no. 75-001-X. http://www.statcan.gc.ca/pub/75-001-x/2009105/article/10866-eng.htm (accessed May 14, 2010).

Gruber, Jonathan. 1997. "The consumption smoothing benefits of unemployment insurance." *The American Economic Review.* Vol. 87, no. 1. March. p. 192-205.

Hamilton, Vivian H., Philip Merrigan and Éric Dufresne. 1997. "Down and out: Estimating the relationship between mental health and unemployment." *Health Economics.* Vol. 6, no. 4. p. 397-406.

Jones, Stephen R.G. 2009. "Older workers in the new economy: The role of wage insurance and the rethinking of employment insurance." *Canadian Public Policy.* Vol. 35, no. 4. p. 499-511.

Lu, Yuqian and René Morissette. 2010. "Women's participation and economic downturns." *Perspectives on Labour and Income.* Vol. 11, no. 5. May. Statistics Canada Catalogue no. 75-001-X.

Morissette, René and Yuri Ostrovsky. 2008. *How Do Families and Unattached Individuals Respond to Layoffs?* Statistics Canada Catalogue no. 11F0019MIE – No. 304. Analytical Studies Branch Research Paper Series. Ottawa. 37 p. http://www.statcan.gc.ca/pub/11f0019m/11f0019m2008304-eng.pdf (accessed May 17, 2010).

Morissette, René, Xuelin Zhang and Marc Frenette. 2007. *Earnings Losses of Displaced Workers: Canadian Evidence from a Large Administrative Database on Firm Closures and Mass Layoffs.* Statistics Canada Catalogue no. 11F0019MIE – No. 291. Analytical Studies Branch Research Paper Series. Ottawa. 38 p. http://www.statcan.gc.ca/pub/11f0019m/11f0019m2007291-eng.pdf (accessed May 17, 2010).

Morissette, René. 2004. "Permanent layoff rates." *Perspectives on Labour and Income.* Vol. 5, no. 3. March. Statistics Canada Catalogue no. 75-001-X. http://www.statcan.gc.ca/pub/75-001-x/10304/6825-eng.htm (accessed May 14, 2010).

Picot, Garnett and Andrew Heisz. 2000. *The Performance of the 1990s Canadian Labour Market.* Statistics Canada Catalogue no. 11F0019MPE – No. 148. Analytical Studies Branch Research Paper Series. Ottawa. 43 p. http://www.statcan.gc.ca/pub/11f0019m/11f0019m2000148-eng.pdf (accessed May 17, 2010).

Picot, Garnett and Zhengxi Lin. 1997. *Are Canadians More Likely to Lose Their Jobs in the 1990s?* Statistics Canada Catalogue no. 11F0019MPE – No. 96. Analytical Studies Branch Research Paper Series. Ottawa. 40 p. (accessed May 17, 2010).

Picot, Garnett, Zhengxi Lin and Wendy Pyper. 1997. "An overview of permanent layoffs." *Perspectives on Labour and Income.* Vol. 9, no. 3. Autumn. Statistics Canada Catalogue no. 75-001-XPE. p. 46-52. http://www.statcan.gc.ca/studies-etudes/75-001/archive/e-pdf/3209-eng.pdf (accessed May 14, 2010).

Quets, Gail, Philip K. Robins, Elsie C. Pan, Charles Michalopoulos and David Card. 1999. *Does SSP Plus Increase Employment? The Effect of Adding Services to the Self-sufficiency Project's Financial Incentives.* Ottawa. Social Research and Demonstration Corporation. 118 p. http://www.srdc.org/uploads/does_ssp_plus_inc_empl.pdf (accessed May 19, 2010).

Statistics Canada. 2009. *Low Income Cut-offs for 2008 and Low Income Measures for 2007.* Statistics Canada Catalogue no. 75F0002M – No. 002. Income Research Paper Series. Ottawa. http://www.statcan.gc.ca/pub/75f0002m/75f0002m2009002-eng.htm (accessed May 17, 2010).